

What is claimed is:

Sub 1. A gateway for transmitting data packets between a wireless network and a second network, the gateway comprising:

a database comprising data associating at least one wireless terminal with at least one destination address, said data including for each of said at least one wireless terminal at least one wireless terminal identifier, at least one source address of said wireless terminal according to a protocol of said second network, and at least one destination address on said second network;

a database manager collecting information from said data packets received from said at least one wireless terminal in order to build up and maintain said database;

a header builder receiving data packets from the wireless network without a header suitable for said protocol of said second network and building said suitable header based on said data and information contained within said data packets received, and outputting data packets with said suitable header for transmission on said second network; and

a relay module receiving data packets from said second network addressing said at least one wireless terminal according to an address associated with said second network, said relay module retransmitting said data packets from said second network to said at least one wireless terminal using an address obtained from said database in a format of a protocol of said wireless network.

2. The apparatus as claimed in claim 1 wherein said database manager responds to request messages from said at least one wireless terminal, said request messages comprise information about the communication.

3. The apparatus as claimed in claim 2 wherein the response to said request messages allocates an Identification Number (ID), and said header builder reads said ID to determine the header information, said ID being sent to said wireless terminal.

4. The apparatus as claimed in claim 2 wherein said ID has at least a Sub Identification Number (Sub-ID), said Sub ID being used when many of said destinations are being simultaneously managed with a single ID in order to for said at least one destinations to be distinguished.

5. The apparatus as claimed in claim 1 wherein said database manager only stores one of said destination address per terminal, and automatically builds data from said header information received, said packets received with said header information being forwarded without said wireless header on said second network, said header converter building said header information for said destination address for subsequent packets not having said header information.

6. The apparatus as claimed in claim 1 wherein said protocol used at said second network is TCP/IP.

7. The apparatus as claimed in claim 1 wherein said relay module communicates said header into said wireless terminal using said database data and strips headers information from said packets sent to said wireless terminal.

8. The apparatus as claimed in claim 7 wherein said relay module compresses said data packets prior to transmission to said wireless terminal.

9. The apparatus as claimed in claim 7 wherein said relay module encrypts said data packets prior to transmission to said wireless terminal.

10. The apparatus as claimed in claim 7 wherein said relay module compresses said data and information contained within said data packets to be transmitted over said wireless network.

11. The apparatus as claimed in claim 7 wherein said relay module encrypts said data and information contained within said data packets to be transmitted over said wireless network.

12. The apparatus as claimed in claim 7 wherein said relay module encrypts said data and information contained within said data packets to be transmitted over said wireless network using a public/private keying scheme.

13. A wireless terminal for transmitting wireless packets over a wireless network, said wireless terminal comprising:

a header manager transmitting header information for a particular destination on a second network, and said wireless packets to said wireless network without a header suitable for a protocol used on a second network;

a memory comprising data representing header information concerning at least one second network terminal;

a memory manager collecting information from said wireless packets received from said wireless network in order to build up and maintain said memory;

a relay module collecting said data packets, not having a header suitable for said protocol, from said wireless network to build a data packet with a header suitable for said protocol using said data.

14. The apparatus as claimed in claim 13 wherein said memory manager requests response messages from said wireless packets.

15. The apparatus as claimed in claim 14 wherein the response messages to said mobile terminal gives an Identification Number (ID), and said header converter reads said ID to determine the header info.

16. The apparatus as claimed in claim 15 wherein said ID has a sub identification number (Sub-ID), when many of said destinations are being simultaneously managed.

17. A method for sending a data packet from a wireless terminal to a second network via a wireless network, said method comprising the steps of:

- sending header information from the wireless terminal,
- removing said header of said data packet to provide a data part of said data packet,
- adding to said data part of said data packet a wireless header to provide a wireless packet,
- transmitting said wireless packet over said wireless network,
- receiving said wireless packet and removing said wireless header of said wireless packet to provide said data part of said wireless packet,
- creating a header for said data part using said header information received and according to a protocol of said second network,
- adding said header created to said data part of said wireless packet to provide a new packet, and
- sending said new packet on said second network.

18. A method for sending a data packet from a second network to a wireless terminal via a wireless network, said method comprising the steps of :

- sending header information from said second network to said wireless terminal,
- removing said header of said data packet to provide a data part of said data packet,

adding to said data part of said data packet a wireless header to provide a wireless packet,

transmitting said wireless packet over said wireless network,

receiving said wireless packet and removing said wireless header of said wireless packet to provide said data part of said wireless packet,

creating a header for said data part using said header information received by said wireless terminal and according to a protocol used at said wireless terminal, and

adding said header created to said data part of said wireless packet to provide a new packet in said protocol.

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